Sheet 1 of 11

FORM PTO-1449 (Modified)

U.S. Department of Commerce Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.:09/463643

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Filing Date: January 25, 2000

Applicant: Shuji Nakamura, et al.

Group Art Unit:

(37 CFR § 1.98(b))

| caminer itials | | Serial / Patent Number | Issue Date | Applicant / Patentee | Class | Subclass | Filing Date |
|-------------------|----|---------------------------|------------|----------------------|-------|----------|-------------------|
| BANK | AA | 3566215 | 2/23/71 | Heywang | 317 | 235 | 7/31/68 |
| DWY | AB | 3593191 | 7/13/71 | Henker | 331 | 94.5 | 9/24/69 |
| | AC | 3655439 | 4/11/72 | Seiter | 117 | 212 | 6/16/69 |
| _ | AD | 3658585 | 4/25/72 | Folkmann, et al. | 117 | 201 | 2/26/70 |
| | AE | 3704427 | 11/28/72 | Heywang | 331 | 94.5 | 6/3/64 |
| | AF | 3705567 | 12/12/72 | Ernels | 118 | 49 | 1/22/71 |
| 1, | AG | 3737737 | 6/5/73 | Heywang, et al. | 317 | 234.R | 10/6/71 |
| 1 | AH | 3747559 | 7/24/73 | Dietze | 118 | 48 | 5/15/72 |
| -11- | AI | 3793984 | 2/26/74 | Kasper, et al. | 118 | 48 | 11/13/72 |
| -: | AJ | 3819974 | 6/25/74 | Stevenson, et al. | 313 | 499 | 3/12/73 |
| | AK | 3853974 | 12/10/74 | Reuschel, et al. | 264 | 81 | 2/21/73 |
| | AL | 3941647 | 3/2/76 | Druminski | 156 | 612 | 3/8/73 |
| | AM | 3948693 | 4/6/76 | Weyrich, et al. | 148 | 171 | 7/23/14 |
| | AN | 3963537 | 6/15/76 | Kniepkamp, et al. | 148 | 175 | 8/27/74 |
| | AO | 3965347 | 6/22/76 | Heywang | 250 | 211.J | 11/12/74 |
| | AP | 3974561 | 8/17/76 | Schnoeiler | 29 | 611 | 5/30/74 |
| 1 | BQ | 4020791 | 5/3/77 | Reuschel, et al. | 118 | 49.1 | 11/19/74 |
| | AR | 4062035 | 12/6/77 | Winstel | 357 | 17 | 1/28/77 |
| | AS | 4098223 | 7/4/78 | Erd, et al. | 118 | 48 | 11/4/76 |
| 1 | AT | 4102298 | 7/25/78 | Dietze, et al. | 118 | 5 | 6/10/76 |
| ĺ | AU | 4108539 | 8/22/78 | Gort, et al. | 350 | 201 | 11/18/76 |
| | VA | 4113381 | 9/12/78 | Epstrin | 356 | 5 | 11/18/76 |
| | WA | 4133702 | 1/9/79 | Krimmel | 148 | 1.5 | 8/11 <i>/1</i> 77 |
| | AX | 4140546 | 2/20/79 | Krimmel | 148 | 1.5 | 8/1 <i>7/77</i> |
| | YA | 4154625 | 5/15/79 | Golovchenko et al. | 148 | 1.5 | 11/16/77 |
| | AZ | 4170018 | 10/2/79 | Runge | 357 | 17 | 3/30/78 |
| | BA | 4261770 | 4/14/81 | Splittgerber, et al. | . 148 | 171 | 3/13/80 |
| | 88 | 4351695 | 9/28/82 | Hicher, et al. | 156 | 603 | 1/2/81 |
| W | 8C | 4404265 | 9/13/83 | Manasevit | 428 | 689 | 4/1/18 |
| 1 | 80 | 4410993 | 10/18/83 | Zschauer | 372 | 44 | 4/17/81 |
| | 86 | 4423349 | 12/27/83 | Nakajima, et al. | 313 | 487 | 7/1/81 |
| V | BF | 4505765 | 3/19/85 | Trommer | 148 | 171 | 6/17/83 |
| BW | BG | 4521448 | 6/4/85 | Sasaki | 427 | 88 | 3/3/83 |

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Sheet 2 of 11 Attorney Docket No.: NICHIA-00700 FORM PTO-1449 U.S. Department of Commerce Serial No.:09/463643 Patent and Trademark Office (Modified) Applicant: Shuji Nakamura, et al. INFORMATION DISCHOOSERE STATEMENT BY APPLICANT Filing Date: January 25, 2000 Group Art Unit: (37 CFR § 1.98(b)) вн 4531142 7/23/85 Weyrich, et al. 357 2/16/83 384 530 12/3/84 ΒI 4568206 2/4/86 **I**mazaike ВJ 6/24/86 Krimmel 357 7/19/84 4596998 17 вк 427 74 9/12/84 4599244 7/8/86 Falckenberg, et al. ВĻ 9/11/84 4599245 7/8/86 Falckenberg, et al. 427 74 BM 4604637 8/5/86 Ruhle, et al. 357 17 3/1/83 BN Jackson, et al. 156 2/27/85 4615766 10/7/86 662 во 4656636 4/7/87 372 50 12/23/85 Amann, et al. BP 148 171 6/6/85 4661175 4/28/87 Kuphal, et al. BQ 4670093 6/2/87 156 649 4/21/86 Macrz, et al. BR 4682337 7/21/87 372 44 9/13/85 Amann Heinen BS 372 44 -9/12/85 4683574 7/28/87 BT 372 9/6/85 4722088 1/26/88 Wolf 44 BU 4740259 4/26/88 Heinen 156 234 9/15/86 B۷ 4742525 5/3/88 Heinen, et al. 372 44 9/6/85 BW 372 3/13/87 4744088 5/10/88 Heinen, et al. 50 BX 350 3/13/85 4746195 5/24/88 Auracher, et al. 320 BY 4763979 8/16/88 Heywang 350 96.20 9/23/86 ΒZ 9/5/86 4768199 8/30/88 Heinen, et al. 372 36 CA 350 4/1/87 4792200 12/20/88 96.12 Amann, et al. CB 1/30/87 4792959 12/20/88 Mueller, et al. 372 46 CÇ 4/4/89 437 129 5/26/87 4818722 Heinen ÇD 250 483.1 10/1/87 4829188 5/9/89 Shinomiya, et al. CE 357 2/3/88 4835575 5/30/89 Plihal 30 CF 4841344 6/20/89 Heinen 357 17 12/7/87 CG 4845723 7/4/89 372 2/22/88 Heinen, et al. 38 CH 4855118 423 301 4/12/88 8/8/89 Ichinose, et al. CI 313 487 3/2/88 4859903 8/22/89 Minematu, et al. 7/5/88 CJ 357 4864369 9/5/89 Snyder, et al. 17 CK 4869568 9/26/89 Schimpe 350 96.12 9/29/88 CL 4890033 12/26/89 Ichinomiya, et al. 313 487 6/28/88 СН 4904617 Muschke 437 8/25/88 2/27/90 129 ÇN 8/22/88 437 4904618 2/27/90 Neumark 150

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Schellhorn, et al.

Huang, et al.

Manabe, et al.

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Sheet 3 of 11 FORM PTO-1449 U.S. Department of Comparison (Modified) (37 CFR § 1.98(b))

U.S. Department of Commerce Patent and Trademark Office

Attorney Docket No.: NICHIA-00700

Serial No.:09/463643

Applicant: Shuji Nakamura, et ol.

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Filing Date: January 25, 2000

Group Art Unit:

| 37 CFR § 1.9 | 8(D)) | | | | <u> </u> | | <u> </u> | |
|--------------|-------|---------|----------|--------------------------|---------------------------------------|-----------------|-------------------|----------|
| Buls | CR | 4918497 | 4/17/90 | Edmond | | 357 | 17 | 12/14/88 |
| 1 | cs | 4929907 | 5/29/90 | Berkel | | 330 | 252 | 3/8/89 |
| | CT | 4944837 | 7/31/90 | Nishikawa, et al. | | 156 | 646 | 2/28/89 |
| | CU | 4945394 | 7/31/90 | Paimour, et al. | | 357 | 34 | 10/26/87 |
| 1 | CV | 4946547 | 8/7/90 | Palmour, et al. | | 156 | 643 | 10/13/89 |
| _ | CW | 4947218 | 8/7/90 | Edmond, et al. | - | 357 | 13 | 11/3/87 |
| | cx | 4959174 | 9/25/90 | Nakajima, et al. | | 252 | 301.6R | 3/16/89 |
| | CY | 4960728 | 10/2/90 | Schaake, et al. | | 437 | 82 | 10/11/88 |
| | CZ | 4966862 | 10/30/90 | Edmond | | 437 | 100 | 8/28/89 |
| | DA | 4971739 | 11/20/90 | Ichinose, et al. | | 264 | 61 | 4/12/89 |
| | DB | 4977567 | 12/11/90 | Hanke | | 372 | 45 | 10/11/89 |
| | DC | 4982314 | 1/1/91 | Miki | | 363 | 16 | 12/4/89 |
| | DD | 4985742 | 1/15/91 | Pankove | | 357 | 34 | 7/7/89 |
| | DE | 4987576 | 1/22/91 | Heinen | · · · · · · · · · · · · · · · · · · · | 372 | 46 | 11/3/89 |
| _ | DF | 4990466 | 2/5/91 | Shieh, et al. | | 437 | 129 | 11/1/88 |
| | DG | 4990990 | 2/5/91 | Albrecht, et al. | · · · · · · · · · · · · · · · · · · · | 357 | 30 | 3/23/88 |
| | DH | 5005057 | 4/2/91 | izumiya, et al. | | 357 | 17 | 4/13/90 |
| | DI | 5006908 | 4/9/91 | Matsuoka, et al. | | 357 | 17 | 2/12/90 |
| | DJ | 5008735 | 4/16/91 | Edmond, et al. | | 357 | 74 | 12/7/89 |
| | DK | 5008789 | 4/16/91 | Arai, et al. | | 362 | 255 | 2/14/90 |
| | Dr | 5019746 | 5/28/91 | Merg | • | 313 | 512 | 12/4/89 |
| | DM | 5023686 | 6/11/91 | Helmut, et al. | | 357 | 30 | 6/15/90 |
| | DN | 5027168 | 6/25/91 | Edmond | | 357 | 17 | 8/28/89 |
| | DO | 5034956 | 7/23/91 | Gessner, et al. | | 372 | 45 | 11/2/89 |
| | DP | 5041334 | 8/20/9! | Nakajima, et al. | | 428 | 407 | 12/19/89 |
| | DQ | 5042043 | 8/20/91 | Hatano, et al. | | 372 | 45 | 4/13/90 |
| | DR | 5045896 | 9/3/91 | Ash, et al. | · · · · · | 357 | 17 | 3/21/89 |
| | DS | 5049779 | 9/17/91 | lisuici, et al. | | 313 | 486 | 4/28/89 |
| | DT | 5061972 | 10/29/91 | Edmond | | 357 | 13 | 9/13/90 |
| | DU | 5065207 | 11/12/91 | Heinen | | 357 | 30 | 2/5/91 |
| | עם | 5077145 | 12/31/91 | Shinomiya, et al. | | 428 | 691 | 12/21/90 |
| | DW | 5093576 | 3/3/92 | Edmond, et al. | | 250 | 370.01 | 3/15/91 |
| | DX | 5119540 | 6/9/92 | Kong, et al. | | 29 | 25.01 | 7/24/90 |
| | DY | 5120619 | 6/9/92 | Nakajima, et al. | | 428 | 690 | 11/7/90 |
| | D2 | 5122845 | 6/16/92 | Manabe, et al. | | 357 | 17 | 2/26/90 |
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Sheet 4 of 11 Serial No.:09/463643 FORM PTO-1449 U.S. Department of Commerce Attorney Docket No.: NICHIA-00700 Patent and Trademark Office (Modified) INFORMATION DISCUSSIVE STATEMENT BY APPLICANT Applicant: Shuji Nakamura, et al. Group Art Unit: Filing Date: January 25, 2000 (37 CFR § 1.98(b)) 372 2/1/91 EΒ 9/8/92 Khan, et al. 5146465 100 12/20/90 437 EC 5155062 10/13/92 Coleman 4/18/90 118 726 ED 12/15/92 Reithmaier, et al. 5171370 EE 1/26/93 359 359 8/30/91 5182670 Khan, et al. 7/17/90 EΕ 359 344 5184247 2/2/93 Schimpe 12/27/91 428 404 EG 5185207 2/9/93 Furuoka, et al. EН 4/6/93 156 612 10/3/90 5200022 Kong, et al. 359 4/1/92 EΙ 5202777 4/13/93 Służky, et al. 50 156 662 5/30/91 εJ 4/27/93 5205905 Kotaki, et al. 385 10/2/91 EΚ 5208878 5/4/93 Thulke 14 6/5/91 EL 5210051 5/11/93 Carter, Jr. 437 107 257 12/20/91 ЕМ 6/8/93 Manabe, et al. 103 5218216 84 3/27/92 257 EN 5229626 7/20/93 Ebitani, et al. £Ο 5233204 8/3/93 Fletcher, et al. 257 13 1/10/92 ΕP 257 76 11/4/92 5239188 8/24/93 Takeuchi, et al. 372 45 12/26/91 ΕQ 9/21/93 Okaraki, et al. 5247533 428 690 5/8/92 ER 5250366 10/5/93 Nakajima, et al. 437 22 8/15/88 E\$ 5252499 10/12/93 Rothschild ΕŢ 257 13 6/10/92 5252839 10/12/93 Fouquet 372 46 4/23/92 ΕU 11/9/93 Amann, et al. 5260960 6/14/91 EV 257 77 5264713 11/23/93 Palmour 437 10/2/91 EN 5266503 11/30/93 Wang, et al. 24 EX 257 77 6/14/91 5270554 12/14/93 Palmour

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Kozawa

Manabe, et al.

Kotaki, et al.

Nakamura, et al.

Somatomo, et al.

Glass, et al.

Aihara, et al.

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Sumitomo, et al.

Edmond, et al.

Yamada, et al.

Morimoto, et al.

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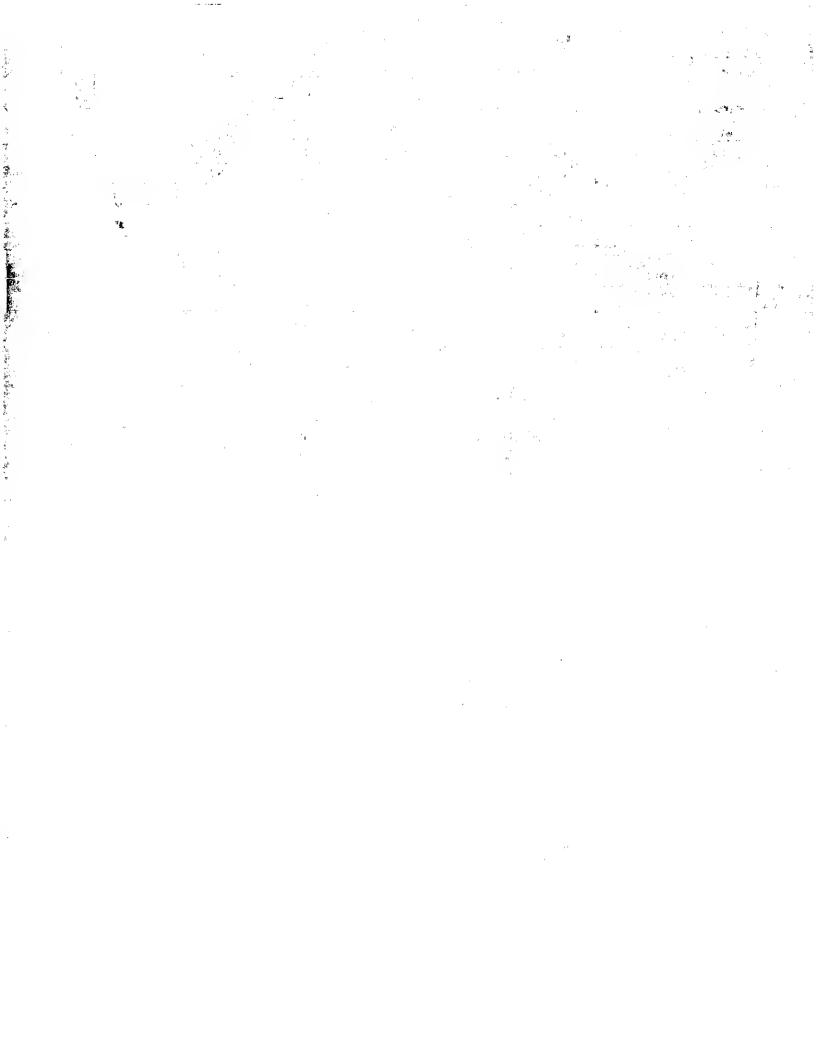
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| bWB | FL | 5344791 | 9/6/94 | Honng | 437 | 126 | 8/14/92 |
|---------------|-------|---------|-----------|--------------------|----------------|---------|----------|
| | EM | 5359345 | 10/25/94 | Hunter | 345 | 102 | 8/5/92 |
| 1 | EN | 5363390 | 11/8/94 | Yang, et al. | 372 | 22 | 11/22/93 |
| \neg | FO | 5366834 | 11/22/94 | Yoneda, et al. | 430 | 23 | 5/5/93 |
| _ | FP | 5369289 | 11/29/94 | Tamaki, et al. | 257 | 99 | 10/30/92 |
| | FQ | 5376303 | 12/27/94 | Royce, et al. | 252 | 301.4 R | 1/10/94 |
| | FR | 5376580 | 12/27/94 | Kish, et al. | 437 | 127 | 3/19/93 |
| | FS | 5381103 | 1/10/95 | Edmond, et al. | 324 | 753 | 10/13/92 |
| 1 | FT | 5382822 | 1/17/95 | Stein | 257 | 410 | 9/27/93 |
| | FU | 5389571 | 2/14/95 | Takeuchi, et al. | 437 | 133 | 4/16/93 |
| | ΕΛ | 5390210 | 2/14/95 | Fouquet, et al. | 372 | 92 | 11/22/93 |
| \dashv | FW | 5393993 | 2/28/95 | Edmond, et al. | 257 | 77 | 12/13/93 |
| | FX | 5394005 | 2/28/95 | Brown, et al. | 257 | 461 | 2/18/94 |
| _ | FY | 5403774 | 4/4/95 | Shieh, et al. | 437 | 129 | 11/6/92 |
| _ | FZ | 5404282 | 4/4/95 | Klinke, et al. | 362 | 249 | 8/19/94 |
| _ | Gλ | 5408120 | 4/18/95 | Manabe, et al. | 257 | 431 | 1/22/93 |
| _ | GB | 5409859 | 4/25/95 | Glass, et al. | 437 | 187 | 4/22/94 |
| — | GC | 5416342 | 5/16/95 | Edmand, et al. | 257 | 76 | 6/23/93 |
| \dashv | GD | 5417886 | 5/23/95 | Tatciwa, et al. | 252 | 301.4 R | 9/20/93 |
| _ | GE GE | 5433169 | 7/18/95 | Nakamura | 117 | 102 | 4/6/94 |
| \neg | GF | 5433533 | 7/18/95 | Imazaike | 384 | 488 | 12/20/93 |
| | GG | 5433888 | 7/18/95 | Okada, et al. | 252 | 301.4 R | 9/20/93 |
| _ | GH | 5435938 | 7/25/95 | Bando, et al. | 252 | 301.4 S | 3/10/94 |
| - | G1 | 5438198 | 8/1/95 | Ebitani, et al. | 250 | 330 | 5/3/94 |
| _ | GJ | 5459107 | 10/17/95 | Palmour | 437 | 238 | 6/5/92 |
| | GK | 5465249 | 11/7/95 | Cooper, Jr. et al. | 365 | 149 | 11/26/91 |
| -+ | GL | 5467291 | 11/14/95 | Fan, et al. | 364 | 578 | 12/5/91 |
| + | GM | 5468678 | 11/21/95 | Nakamura, et al. | 437 | 107 | 1/12/94 |
| _ | GN | 5475241 | 12/12/95 | Harrah, et al. | 257 | 99 | 10/27/93 |
| _ | GO | 5497012 | 3/5/96 | Moll | 257 | 183 | 6/15/94 |
| _ | GP | 5502316 | 3/26/96 | Kish, et al. | 257 | 94 | 10/12/95 |
| | GQ | 5506421 | 4/9/96 | Palmour | 257 | 77 | 11/24/92 |
| \neg | GR | 5511084 | - 4/23/96 | Amann | 372 | 20 | 1/17/95 |
| $\neg \vdash$ | GS | 5514627 | 5/7/96 | Lowery, et al. | 437 | 209 | 1/24/94 |
| | GT | 5523018 | 6/4/96 | Okada, et al. | 252 | 301.4 P | 3/23/95 |
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INFORMATION DISCLOSINE STATEMENT BY APPLICANT

(37 CFR § 1.98(b))

Attorney Docket No.: NICHIA-00700 Serial No.:09/463643

Applicant: Shuji Nakamura, et al.

Filing Date: January 25, 2000 Group Art Unit:

| 17 CFR § 1. | .30(0)) | | | | | | |
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| W/2 | GV | 5539217 | 7/23/96 | Edmond, et al. | 257 | 77 | 8/9/93 |
| A | GW | 5563422 | 10/8/96 | Nakamura, et al. | 257 | 13 | 4/28/94 |
| 1 | GX | 5578839 | 11/26/96 | Nakamura, et al. | 257 | 96 | 11/17/93 |
| _ | GY | 5583879 | 12/10/96 | Yamazaki, et al. | 372 | 45 | 4/19/95 |
| $\neg \vdash$ | GZ | 5585648 | 12/17/96 | Tischler | 257 | 77 | 2/3/95 |
| $\neg \vdash$ | на | 5587593 | 12/24/96 | Koide, et al. | 257 | 94 | 4/19/95 |
| | нв | 5592501 | 10197 | Edmond, et al. | 372 | 45 | 9/20/94 |
| $\neg \neg$ | ЯC | 5592578 | 1/7/97 | Ruh | 385 | 31 | 11/1/95 |
| | HD | 5596595 | 1/21/97 | Tan, es al. | 372 | 96 | 6/8/95 |
| | HE | 5604135 | 2/18/97 | Edmond, et al. | 437 | 22 | 8/12/94 |
| _ | HF | 5604763 | 2/18/97 | Kato, et al. | 372 | 45 | 4/19/95 |
| $\neg \vdash$ | HG | 5612260 | 3/18/97 | Palmour | 437 | 238 | 12/9/94 |
| _ | HH | 5614736 | 3/25/97 | Neumann, et al. | 257 | 102 | 9/25/95 |
| \top | нт | 5616177 | 4/1/97 | Yamada | 117 | 102 | 2/22/95 |
| | ВJ | 5620557 | 4/15/97 | Manabe, et al. | 438 | 507 | 6/26/95 |
| 1 | HR | 5621749 | 4/15/97 | Bancy | 372 | 69 | 9/6/95 |
| | HL | 5625202 | 4/29/97 | Chai | 257 | 94 | 6/8/95 |
| | нм | 5627244 | 5/6/97 | Sato | 526 | 92 | 4/26/95 |
| | HN | 5629531 | 5/13/97 | Palmour | 257 | 77 | 12/9/94 |
| | но | 5631190 | 5/20/97 | Negley | 438 | 33 | 10/7/94 |
| | EP | 5635146 | 6/3/97 | Singh, et al. | 423 | 65 | 11/30/95 |
| | HQ | 5642375 | 6/24/97 | King, et al. | 372 | 97 | 10/26/95 |
| | HR | 5650641 | 7/22/97 | Sassa, et al. | 257 | 88 | 8/31/95 |
| \top | нѕ | 5652434 | 7/29/97 | Nakamura, et al. | 257 | 13 | 6/17/96 |
| \top | HT | 5652438 | 7/29/97 | Sassa, et al. | 257 | 94 | 7/19/95 |
| 1 | но | 5656832 | B/12/97 | Ohba, et al. | 257 | 190 | 3/8/95 |
| | HV | 5659568 | 8/19/97 | Wang, et al. | 372 | 96 | 5/23/95 |
| \neg | EW | 5661074 | 8/26/97 | Tischler | 438 | 32 | 5/24/95 |
| | HX | 5661316 | 8/26/97 | Kish, Jr., et al. | 257 | 190 | 9/20/96 |
| \top | RY | 5661742 | 8/26/97 | Huang, et al. | 372 | 46 | 5/22/96 |
| | HZ | 5670798 | 9/23/97 | Schetzina | 257 | 96 | 3/29/95 |
| | IA | 5679153 | 10/21/97 | Dmitriev, et al. | 117 | 106 | 11/30/94 |
| | IB | 5684623 | 11/4/97 | King, et al. | 359 | 346 | 11/21/96 |
| | IC | 5686737 | 11/11/97 | Allen | 257 | 77 | 9/16/94 |
| | ID | 5700713 | 12/23/97 | Yamazaki, et al. | 437 | 129 | 3/20/95 |
| VIIII | IE | 5707139 | 1/13/98 | Haitz | 362 | 231 | 11/1/95 |

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Sheet 7 of 11 MAY 2 4 2000 FORM PTO-1449 U.S. Department of Commerce Attorney Docket No.: NICHIA-00700 Serial No.:09/463643 Patent and Trademark Office (Modified) Applicant: Shuji Nakamura, et al. INFORMATION DECLES STATEMENT BY APPLICANT Group Art Unit: Filing Date: January 25, 2000 (37 CFR § 1.98(b)) 2/5/96 5718760 2/17/98 Carter, et al. 117 84 IG 257 6/6/06 5719409 2/17/98 77 Singh, et al. IH 345 5724062 3/3/98 Hunter 102 9/21/94 11 5724373 3/3/98 Chang 372 20 11/15/96 11/30/95 IJ 5724376 372 3/3/98 Kish, Jr., et al. 96 IK 372 5727014 10/31/95 3/10/98 Wang, et al. 96 IL 5729029 3/17/98 Rudaz 257 13 9/6/96 IM 5729567 4/25/96 3/17/98 Nakagawa 372 99 IN 437 11/9/95 127 5733796 3/31/98 Manabe, et al. 10 5734182 3/31/98 Nakamura, et al. 257 96 6/10/96 IΡ 5739552 4/14/98 Kimura, et al. 257 89 10/24/95 IQ 5/8/95 5739554 4/14/98 Edmond, et al. 257 103 IR 5741431 5/15/97 216 4/21/98 Shih 65 IS 5741724 4/21/98 Ramdani, et al. 437 128 12/27/96 IT 5742133 4/21/98 315 291 9/9/96 Wilhelm, et al. ΙŪ 5747832 5/5/98 257 103 6/10/96 Nakamura, et al. ΙV 3*719*7 5753939 257 5/19/98 Sassa, et al. 94 TW 362 6/27/97 5758951 6/2/98 Haitz 259 IX 5761229 372 1/25/96 6/2/98 Baldwin, et al. 31

JD 3/22/96 Krames, et al. 216 24 5779924 7/14/98 JE 427 12/18/96 5780120 7/14/98 Belouct, et al. 554 JΣ 5785404 7/28/98 Wiese 362 32 6/29/95 JG 257 6/13/96 5793054 8/11/98 Nido 18 JH 5793062 8/11/98 257 10/24/97 Kish, Jr., et al. 98 JΙ 5805624 9/8/98 372 45 7/30/96 Yang, et al. IJ 5808323 257 88 3/29/96 9/15/98 Spaeth, et al. JK 5808592 9/15/98 Mizutani, et al. 345 83 4/21/95 JL 5809050 9/15/98 Baldwin, et al. 372 43 1/25/96 5811319 438 3/26/96 9/22/9R Koike, et al. 46 JN 313 5811931 9/22/98 Mueller-Mach, et al. 512 3/4/96

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Sheet 8 of 11 Attorney Docket No.: NICHIA-00700 Serial No.:09/463643 FORM PTO-1449 U.S. Department of Commerce Patent and Trademark Office (Modified) INFORMATION DISCLOSURE TATEMENT BY APPLICANT Applicant: Shuji Nakamura, et al. Group Art Unit: Filing Date: January 25, 2000 (37 CFR § 1.98(b)) JР 372 36 9/30/96 5812570 9/22/98 Spacth 1/6/97 257 433 JQ 9/29/98 Spaeth 5814870 372 46 7/19/96 JR 5818861 10/6/98 Tan, et al. 372 12/29/95 JS 5828684 10/27/98 Van De Walle 45 JT 257 77 9/29/97 5831288 11/3/98 Singh, et al. JŪ 372 36 1/25/96 Yuen, et al. 5835514 11/10/98 372 JV 5835522 11/10/98 King, et al. 97 11/19/96 JW 5837561 11/17/98 Kish, Jr., et al. 438 47 5/23/97 45 11/19/96 JX 372 5838706 11/17/98 Edmond. et al. 372 12/27/96 JY 5838707 11/17/98 Romdeni, et al. 45 372 8/1/95 50 JZ 5838708 11/17/98 Lin, et al. KA 437 21 2/7/96 5846844 12/8/98 Akasaki, et al. KB 313 512 7/14/97 5847507 Butterworth, et al. 12/8/98 3/18/96 кc 5850410 12/15/98 Kuramata 372 43 425 116 12/27/95 KD 5855924 1/5/99 Lumbard KE 5858277 1/12/99 252 301.4 F 12/23/92 Chan, et al. KF 313 485 5/10/96 1/12/99 Murazaki, et al. 5859496 427 3/25/96 KG 1/19/99 248.1 5861190 Greene, et al. 313 6/26/97 KH 5861713 1/19/99 Kondo, et al. 495 ΚI 5862167 1/19/99 Sassa, et al. 372 45 5/27/97 3/12/96 ĸJ 5867516 372 45 2/2/99 Corzine, et al. KK 117 952 1/13/98 5868837 2/9/99 Disalvo, et al. 12/19/97 ΚL 5877558 3/2/99 Nakamura, et al. 257 749 KM 5879587 252 301.45 9/24/97 3/9/99 Yale KN 252 Yalc 301.45 9/24/97 5879588 3/9/99 KO 257 8/30/96 5880486 3/9/99 Nakamura, et al. 96 372 KP 5889802 3/30/99 Walker 31 3/27/97 KQ 5889806 3/30/99 372 45 8/8/97 Nagai, et al. KR 372 10/27/94 5892784 4/6/99 43 Tan et al. KS 372 4/22/96 5892787 4/6/99 Tan, et al. 96 KŢ 257 7/2/97 5/4/99 94 5900650 Nitta KU 5905276 5/18/99 Manabe, et al. 257 103 11/6/97 KV 5907151 5/25/99 Gramann, et al. 250 214.1 5/27/97 KW 257 5/20/97 5912477 6/15/99 Negley 95

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| 37 CF | R § 1.9 | | ADEMARK | | , | Filing Date: January 25, | | , 2000 Group Art Unit: | | |
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| MM EP0731512A2 | | EP0731512A2 | 9/11/96 | EP | | HOIL | 33/00 | | | |
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| | | MO | EP0781619A1 | 7/2/97 | EP | | B23H | 7/02 | | |
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| | | MR | EP0880181A2 | 11/25/98 | EP | _ | HOIL | 29/45 | | |
| | | MS | EP0880181A3 | 1/20/99 | EP | | H01L | 29/45 | | |
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| | | MW | GB2322737A | 3/2/98 | GB | _ | HOIL | 21/304 | | |
| _ | | MX | GB2323210A | 9/16/98 | GB | | HOIL | 33/00 | | |
| | | MY | JP05152609 | 6/18/93 | JP | | HOIL | 33/00 | | |
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| | | NL | WO9812757A1 | 3/26/98 | PCT | | HOIL | 33/00 | | |
| | | NM | WO9834304A1 | 8/6/98 | PCT | | HOIS | 3/025 | | |
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| Modified) | | Patent and Trademark Office | | Applicant: Shuji Naka | mura, et al. | | | | | |
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| ZNIR | NS | WO9857378A1 | 12/17/98 | РСТ | | HOIL | 29/73 | | | |
| عبلام | NT | WO9910936A2 | 3/4/99 | PCT | | HOIL | 33/00 | | | |
| \dashv | NU | WO9910936A3 | 3/4/99 | PCT | | HOIL | 33/00 | | | |
| | NV | WO9918617A1 | 4/15/99 | РСТ | | HOIL | 33/00 | | | |
| HER DOX | UMENTS | (including Author, Title "Novel Metalorgani 5/6/91. | | | on) GaN Growth," S. Nakamu | ıra, American İnst | itute of Physics, | pp.2021-2023, | | |
| _ | NX | "Out of the Blue," Forbes Global Magazine, pp. 66-71, 9/6/99. | | | | | | | | |
| | NY | "Nitride PN Junctions Grown on SiC Substrates," V.A. Dmitriev, Inst. Phys. Conf., pp1019-1022, 1996. | | | | | | | | |
| | NZ | "AlGaN PN Junctions," V.A. Dmitriev, American Inst. of Physics, pp.115-117, 5/11/95. | | | | | | | | |
| | OA | "Effects of Ar Ion Laser Irradiation on MOVPE of ZnSe using DMZn and DMSc as Reactants," A. Yoshikawa, Journal of Crystal Growth, pp.653-658, 1991. | | | | | | | | |
| \top | ОВ | "Electric Breakdown in GaN P-N Junctions," V.A. Dmitriev, American Inst. of Physics, pp.229-231, 1/8/96. | | | | | | | | |
| | oc | "High Quality GaN Grown Directly on SiC by Halide Vapour Phase Epitaxy," Y.V. Melnik, Inst. Phys. Conf., pp.863-866, 1996. | | | | | | | | |
| V | OD | "Luminescence Conversion of Blue Light Emitting Diodes," P. Schlotter, Journal of Applied Physics, pp.12-13, 2/27/97. | | | | | | | | |
| | OE | "P-Type Conduction in Mg-Doped GaN Treated with Low-Energy Electron Beam Irradiation (LEEBI)," H. Amano, Japanese Journal of Applied Physics, pp.2112-2114, 12/89. | | | | | | | | |
| | OE | "Photoluminescence of Mg-Doped P-Type GaN and Electroluminescence of GaN P-N Junction Led," I. Akasaki, Journal of Luminescence Vol. 48-49, pp.666-670, 1991. | | | | | | | | |
| | og | "Recent Progress in | AlGaN/GaN Laser | Structures on 6H-SiC, | " G.E. Bulman, SPIE Vol. | . 2693, pp.57-63, l | 996. | | | |
| | ОН | *Recent Progress in | GaN/SiC LEDs and | d Photopumped Lasers | ," G.E. Bulman, pp.100-1 | 01, 19xx. | | | | |
| i | OI | | "Role of Growth Initiation for High-Brightness GaN-Based Light Emitting Diodes," R.S. Kern, 2nd. Intern. Symp. on Blue Laser and Light Emitting Diodes, Chiba, Japan, 9/29-10/2/98. | | | | | | | |
| | OJ | "The State of SiC: C | "The State of SiC: GaN-Based Blue LEDs," J. Edmond, Inst. Phys. Conf. Ser. No. 142, Chap. 6, pp.991-994, 1996. | | | | | | | |
| . [| OK | *Wide Bandgap Gro | "Wide Bandgap Group-III Nitride Optoelectronics," http://www.phy.duke.edu/research/photon/terahertz/gan/index.html. | | | | | | | |
| LAINR | 1 ANC OL "White LED Production at Osram," G. Bogner, Compound Semiconductor, pp.28-31, 5/99. | | | | | | | | | |

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